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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/763,641	03/29/2001	Katherine Giles	WLJ.072	7702
20987	7590	03/10/2005		
VOLENTINE FRANCO, & WHITT PLLC ONE FREEDOM SQUARE 11951 FREEDOM DRIVE SUITE 1260 RESTON, VA 20190			EXAMINER GHYKA, ALEXANDER G	
			ART UNIT 2812	PAPER NUMBER

DATE MAILED: 03/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/763,641

Applicant(s)

GILES ET AL

Examiner

Alexander G. Ghyska

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,6-23,25-28 and 30-43 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,6-23, 25-28 and 30-43 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

ALEXANDER GHYKA
PRIMARY EXAMINER

Av 2812
Alex Ghyska

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Applicants arguments of January 4, 2005 have been considered and entered in the record. The arguments are unpersuasive for the reasons as discussed below.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-4, 6-8, 11, 13-17, 22-23, 25-28 and 30-43 are rejected under 35 U.S.C. 102(b) as being anticipated by Tsukune et al (EP 0 519 079) .

The present claims generally call for a method of forming a film on a substrate comprising positioning the substrate on a support in a chamber, supplying to the chamber in gaseous or vapor form a silicon containing organic compound and an oxidizing agent in the presence of a plasma to deposit a film on the substrate, and setting the film such that the carbon containing groups are contained therein. Other claims call for a hydrogen plasma and an apparatus to practice the method claims.

Tsukune et al disclose a process for forming a silicon oxide film comprising the step of depositing a thin film of a silanol, a polymer thereof or a siloxane polymer, each containing an organic group, on a substrate by exciting a gas containing an organosilane or organosiloxane gas and a gas containing H and OH on a substrate in a

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reaction chamber to cause a reaction in a gas phase. See the Abstract. Moreover, Tsukune et al disclose the reactants as claimed by the presently claimed invention. See page 8, lines 25-55. Tsukune et al further disclose that the low polymer adsorbed on the wafer flows on the surface of the thin film of an organic group containing silicon oxide formed on the wafer and is converted to a thin film of an organic group containing silicon oxide while crosslinking with a dangling bond on the surface of the organic group containing silicon oxide. See page 11, lines 32-36. The use of a hydrogen plasma is disclosed on page 10, lines 35-40. Furthermore, Tsukune et al generally disclose the the parallel plate CVD system as required by the present. See page 11, lines 35-55 and page 13, Example 1. Tsukune et al also disclose the use of oxygen as an oxidizing gas. See page 15, Example 4. Therefore, the Claims at hand are anticipated.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

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not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 9, 10, 12, 18-21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsukune et al (EP 0 519 079).

Tsukune et al is relied upon as discussed above.

Tsukune et al disclose all of the presently claimed limitations with the exception of the various reaction parameters such as the temperature, time and pressure ranges of the Claims at hand.

It would have been obvious for one of ordinary skill in the art to arrive at the presently claimed reaction parameters as the disclosure of Tsukune et al broadly encompasses the presently claimed limitations. The establishment of the optimal reaction parameters is a matter of optimization. Where the general conditions of a claim is disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. See *Allen et al v. Coe*, 57 USPQ 136. Moreover, the discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art. See *In re Aller*, 105 USPQ 233.

Response to Applicants Arguments

Applicants argue that the prior art reference Tsukune et al is directed to a process in which undesirable organic groups are removed, and that Tsukune et al disclose the removal of any organic group. Applicants further argue that Tsukune et al

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does not teach the setting of the deposited film such that carbon containing groups are contained therein. The Examiner maintains that Tsukune et al is replete with references pertaining to the organic groups that remain in the film. See for example page 9, lines 30-35. Also see page 9, line 20 "when an organic group is present", line 30 "the amount of the organic groups contained in the above-described thin film", and line 42 "organic groups remain". With respect to the claims rejected under 35 USC 103, the Examiner maintains that unpreferred embodiments must be considered in determining obviousness. See *In Re Berckel*, 201 USPQ 67 (CCPA 1979). Moreover, a reference is not limited to its preferred embodiments. See *In re Boe*, 148 USPQ 507 (CCPA 1966). Therefore, the requirement of the presence of the organic groups does not render the present claims patentable over the cited prior art.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander G. Ghyka whose telephone number is (571) 272-1669. The examiner can normally be reached on Monday through Thursday during general business hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michel Lebentritt can be reached on (571) 272-1873. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AGG
March 5, 2005

ALEXANDER GHYKA
PRIMARY EXAMINER

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A handwritten signature in cursive script, appearing to read 'Alex Ghyska', written in black ink.